

The Study of the relationship between the service quality, customer values, and satisfaction in the Taiwan's skin-care industry

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Abstract

Skin-care is characterized as a service because it is acted and performed via a person-to-person contact and the result of the service may or may not be found in the physical product. Based on a sample of 334 customers from thirty beauty-salons which offered skin-care services in Taiwan and by using SEM with AMOS statistics software as a test model and hypothesis, results found no significant evidence between customer value and satisfaction. However, the partial correlation of values and customer satisfaction would pass the construct validity test for service quality. Clearly found, service quality is a partial mediator between values and customer satisfaction which is indicating the appropriateness of using extended individual Psychological issues such as values to understand consumers' thinking processes and to analyze customers' expectation of the service quality design.

Keywords: SEM, Service quality, skin-care business, customer values and satisfaction.

1. Introduction: Research Background and Motivation

Taiwan's demand of skin-care products is largely driven by retailers' marketing activities and manufacturers' strong marketing efforts. Manufacturers such as cosmetic companies have conducted a considerable amount of new-product research. Relatively less attention, however, has been given to services (Kelly & Storey, 2000). Research has indicated that services with good relations with the consumers can create more loyalty than those without such a rapport. Customers satisfied with the service are more loyal than those who are not (Oliver, 1983). According to Cronin and Taylor (1992), customers use certain values when evaluating products and making their decisions, and values, as such, are the ways in which they think and feel about a product or a service and determine how beneficial or satisfactory it is. Skin-care is characterized as a service

because it is acted and performed via a person-to-person contact and the result of the service may or may not be found in the physical product. Taiwan skin care industries' service processes range from relatively simple procedures activities such as customers calling in advance to make an appointment, being greeted at the skin-care company, waiting and discussing options with their skin-care, having a skin care treatment, paying the fees, and leaving the salon. In addition, a service provider often offers the customers skin-care information by demonstrating skills and educating them on the features of the product or service.

Thus, increased demand for Taiwan's skin-care products has gradually allowed the skincare business to have a higher return based on their services and their consumers' feedback. For these reasons, service providers should consider the cognitive frameworks their customers use when evaluating the product/service and making purchase decisions. Furthermore, how do the skin-care business operators discover these frameworks of consumer purchase decisions? The purpose of this study was to analyze this critical value related, service quality and customer satisfaction factors which underlie the business competitive strategies adopted in Taiwan's skin care and cosmetic industries (TSCCI). This research also indicated the relationship between the service quality, customer's values, and customer satisfaction as found in a questionnaire.

2. Research Methodology

2.1 Research Model

The present study used an integrated research model through questionnaires, and its conceptual model is shown in Figure 2-1.

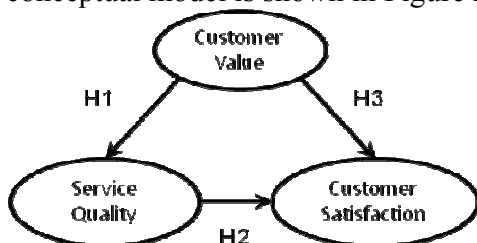


Figure 2-1 The Research Model

2.2 Questionnaire Design

A 29-item survey questionnaire was developed to obtain the responses from skin-care customers regarding their opinions on various research variables. This questionnaire consists of three constructs: customer values (eight items), service quality (seventeen items) and customer satisfaction (four items). As the following Table 2-1 shows, this survey was conducted in the Taiwan Cosmetic Industry.

2.3 The Sampling Plan

The subjects of the present study consisted of those who had purchased skin-care products/services. Data were collected via questionnaires disseminated by a skin-care company. This procedure resulted in 334 fully usable questionnaires.

2.4 Data Analysis Procedures

In testing the hypotheses, SPSS 13.0 and AMO 7.0 software were applied to analyze the

collected data. The following is a brief introduction of the statistical models used in data analyses.

2.5 Structural Equation Modelling

General speaking, the SEM (structural equation modeling) is combined with aspects of a multiple regression and a factor analysis to estimate the interrelationships. SEM express how unobserved concepts, or latent variables, in those relationships account for the error value during the estimation process. The goodness-of-fit measurements may be used to assess actual or observed input matrices, such as covariance and correlation variables from the research model.

3. Analyses and Results

3.1 Measurement Results of the Research Variables: The Goodness-of-Fit of CFA was examined by evaluating the observed data which are consistent with the theoretical model of the present study (Hair et al., 1998). Several model-fit indices were used, including the recommended value: $\chi^2/df \leq 3$, GFI (goodness of fit index) ≥ 0.9 , RMSEA (root mean square error of approximation) ≤ 0.1 , AGFI (adjust goodness of fit index) ≥ 0.9 , (e.g., Hair et al., 1998). Measurements of other constructs (i.e., customer satisfaction, tangibility of service quality) were composed of only three items, leading to zero degree of freedom. Therefore, the goodness-of-fit for those constructs couldn't be tested by accessing CFA. Reliability of these constructs was instead tested by calculating the values of composite reliability (CR) and variance extracted (AVE).

The principles provided by Bagozzi and Yi (1988) to assess the internal-structure-model fit are listed in the following: (1) Individual item reliability: The threshold value for individual latent variables should be 0.50. (2) Composite reliability (CR) (or construct reliability): The acceptable level is greater than 0.60. (3) Average variance extracted (AVE): A latent variable has good reliability and validity when its average variance extracted exceeds 0.50. (4) The estimated values of statistical items shall be significant at less than 0.05.

3.2 Service Quality of CFA

In the present study, service quality is imbedded in four factors: tangibility, reliability, responsiveness, assurance and empathy. Therefore, a second-order CFA was adopted as shown in the summary table of the model, $\chi^2/df = 2.381$, P-value = 0.000, AGFI = 0.894, GFI = 0.922, CFI = 0.929, RMSEA = 0.064. These figures indicate that the scales of the four constructs have a high model fit; therefore, there was no need to make any further model modification. Figure 3-1 display the results for the indexes in question. It shows that all standardized factor loadings are greater than 0.50. Figure 3-1 also indicated that every t-value is well above 1.96 at the 0.05 significance level and that all composite reliability (CR) values have exceeded the threshold of 0.70. Thus, it may be concluded that the construct of service quality has good convergent validity. Figure 3-2 shows that the correlation coefficients of service quality with the four internal constructs are smaller than 1.00 while falling between 0.34 ~0.82. This is a clear sign of discriminate validity for service quality.

Table 2-1 Questionnaire of Skin-Care Service Quality, Customer Values and Satisfaction.

Constructs	Measurement Items	Literature
Service Quality	<p>Tangibility</p> <p>1. This skin-care company is clean, and has an unobstructed interior and exterior store appearance, including seats, mirrors and has modern-looking facilities.</p> <p>2. This skin-care company has a comfortable ambiance, including decorative designs and materials, all being visually appealing.</p> <p>3. The employees of this company are dressed appropriately.</p> <p>4. This skin-care company offers reasonable prices for services and products.</p>	(Parasuraman et al., 1998)
	<p>Reliability</p> <p>5. If this skin-care company promises to do something by a certain time, they will do so.</p> <p>6. When customers have a problem, this skin-care company will show a sincere interest in solving it.</p> <p>7. The skin-care company provides the services at the time it promised.</p> <p>8. This company insists on an error-free record.</p>	
	<p>Responsiveness</p> <p>9. Business hours meet customer requirements.</p> <p>10. Employees of this company give prompt service to customers.</p> <p>11. Employees show kind attitudes and a willingness to quickly solve my problems.</p> <p>12. Employees of this skin-care company are never be too busy to respond to customer requests.</p>	
	<p>Assurance and Empathy</p> <p>13. I feel like my privacy (include body, mind, and spirit) is protected in this skin-care company.</p> <p>14. I feel safe in my transaction with this skin-care company.</p> <p>15. This skin-care company offers high-quality communication which meets my requests, that is, communication focusing on speedy responses and efficient solution of my personal problems.</p> <p>16. This company has adequate security features.</p> <p>17. I feel that I can trust this skin-care business.</p>	
Customer values	<p>Utilitarian value</p> <p>1. Using a skin-care spa makes me feel comfortable and relaxed, like at home.</p> <p>2. After a skin-care service, I have warmer relationships with my friends and family.</p> <p>3. I begin to like myself more after a skin-care service.</p> <p>4. The skincare products and services can better my personal situations and sexual attraction.</p> <p>5. The skin-care service helps create an enjoyable and fun life, which meets my ideals.</p> <p>6. The skin-care company services make me have emotional security.</p> <p>7. The skin-care company services enhance my status and ensure a health and positive ego.</p> <p>8. Skin-care services and products will improve my sense of accomplishment and sensuous satisfaction.</p>	Kahle (1983), Kennedy (1989)
Customer satisfaction	<p>1. With this skin-care company, I feel very satisfied.</p> <p>2. Overall, I am satisfied with my decision to buy this skin-care product and pay for the services.</p> <p>3. My choice to buy this skin-care product and pay for this service was a wise one.</p> <p>4. If I had it to do all over again, I would feel differently about the skin-care program.</p>	Oliver (1980)

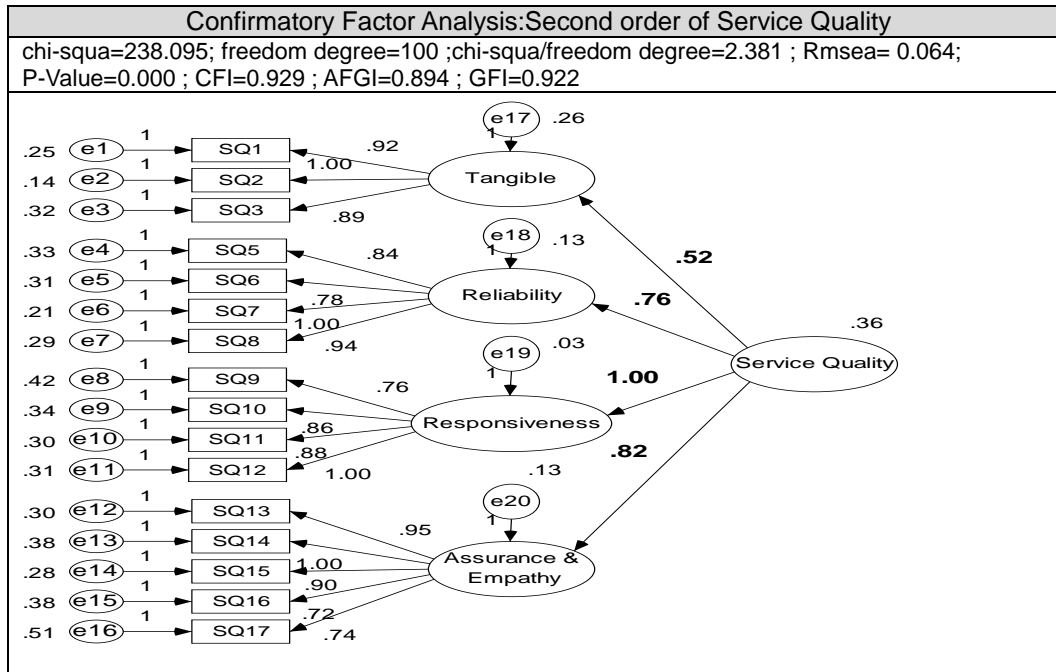


Figure 3-1 Confirmatory Factor Analysis: Second order of Service Quality

3-3 Customer Values of CFA

There are seven items rooted in customer values, and applied first order - CFA for examining convergent validity. Standard factor loadings range from 0.508 to 0.733, and in the present study the standard summary of model, $\chi^2/df = 6.254$, P-value = 0.000, AGFI = 0.857, GFI = 0.929, CFI = 0.886. RMSEA = 0.126 shows that the scales of the construct of customer value has a high model fit, thereby obviating a need to modify the model.

3-4 Examine the Partial Mediator

As modifying the regression weight of customer values on service quality and service quality on customer satisfaction to 0, the correlation between values and customer satisfaction is 1.00 (see Figures 3-3 and 3-4). When re-examining the correlation between values and customer satisfaction with service quality controlled, the correlation of values and service quality is 0.46, the correlation of service quality and customer satisfaction is 0.84, and the correlation of values and customer satisfaction is 0.27 (see Figures 3-3 and 3-4). Comparing the correlation coefficients between the two research models, one would be confident that the partial correlation of values and customer satisfaction would pass the construct validity test for service quality. Clearly, service quality is a partial mediator between values and customer satisfaction.

4. Conclusion and Implications

Based on the data analyses exhibited in a previous section, the results of hypothesis testing for the present study are summarized in Table 4-1, which indicates that

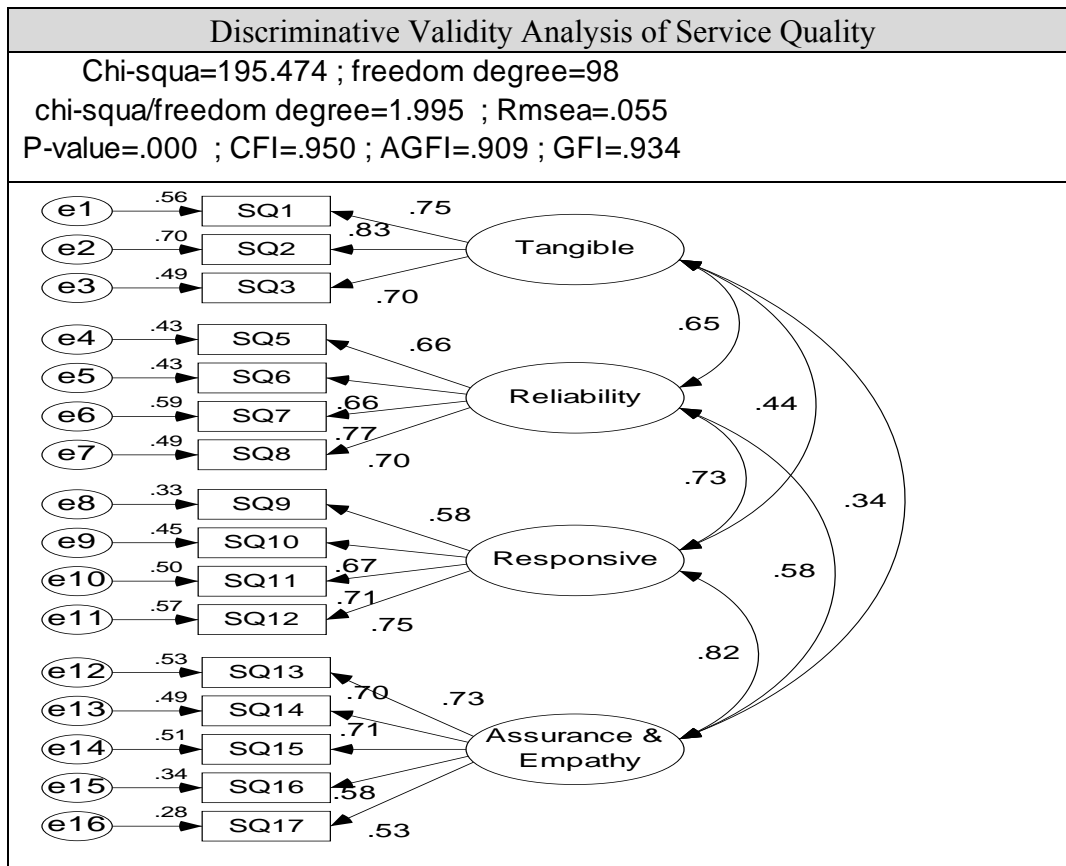


Figure 3-2 Discriminative Validity Analysis of Service Quality

Hypotheses 1 to 2 assuming direct correlations among the research variables, were supported by data. Hypotheses 3 which depict indirect links among these variables were also supported, albeit to a lesser extent. For instance, the correlation between customer values and customer satisfaction is 0.27, but the same relationship, from customer value to service quality is 0.46 and the customer value to satisfaction correlates to service quality by 0.84; this pattern suggests that service quality can increase the effect between customer value and customer satisfaction. Therefore, it may be concluded that Hypothesis 3 is moderately supported.

From a managerial point of view, because a service is unique to each individual customer, it is recommended that skin-care operators not only focus on their direct paths to customer satisfaction, but also pay attention to an indirect route to customer satisfaction, via service quality. Therefore, skin-care operators should clarify these direct and indirect relationships before designing their skin-care service procedures and strategies. Regarding customer values, this study regarded them from a utilitarian-value perspective, especially for emotional security, a sense of belonging and a sense of accomplishment, all of which are relevant in Taiwan's skin-care industry.

The results show that what are important to skin-care customers are that "the skin-care patronage makes me have emotional security," that "using a skin-care SPA makes me feel comfortable and relaxed, just like at home," and that "the skin-care service often results in an enjoyable and fun life, one that meets my ideal." These results may help skin-care operators in Taiwan develop strategies that recognize the differences between physical and psychological service designs so as to create competitive advantages in their businesses.

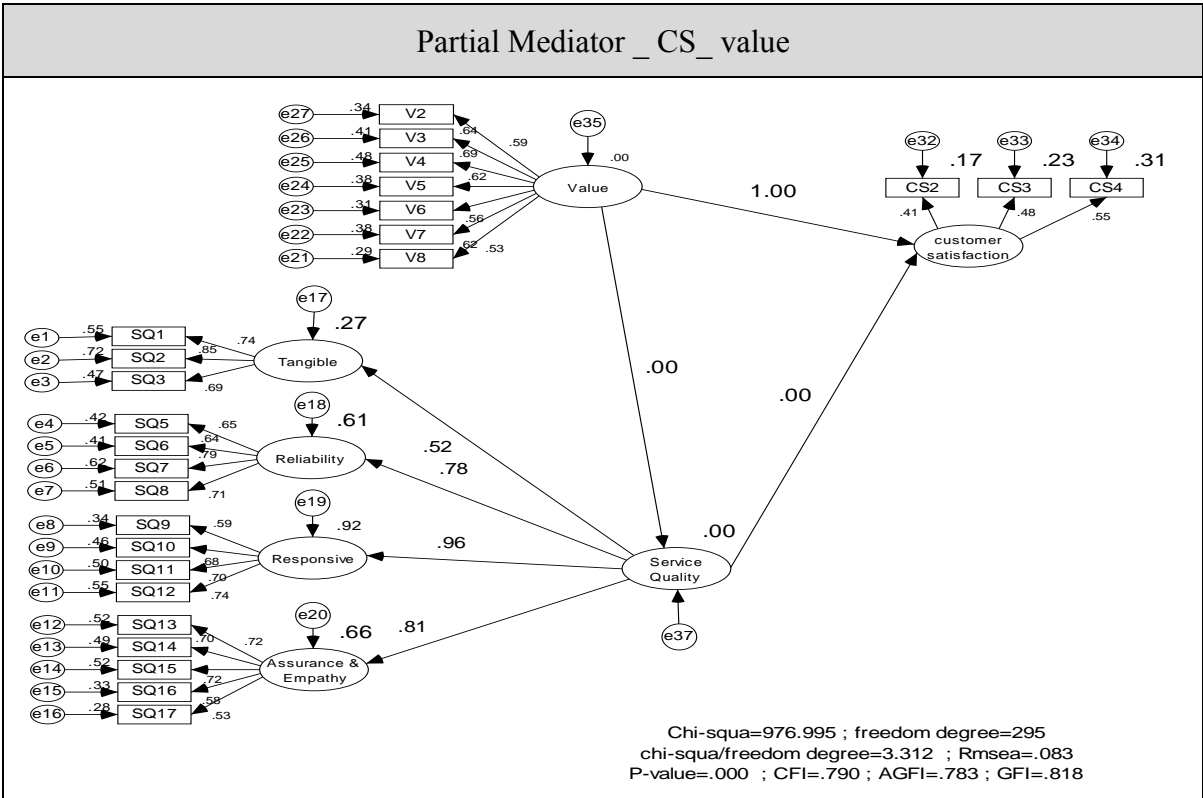


Figure 3-3 Examination of the partial Mediator(Customer values→Customer Satisfaction without service quality)

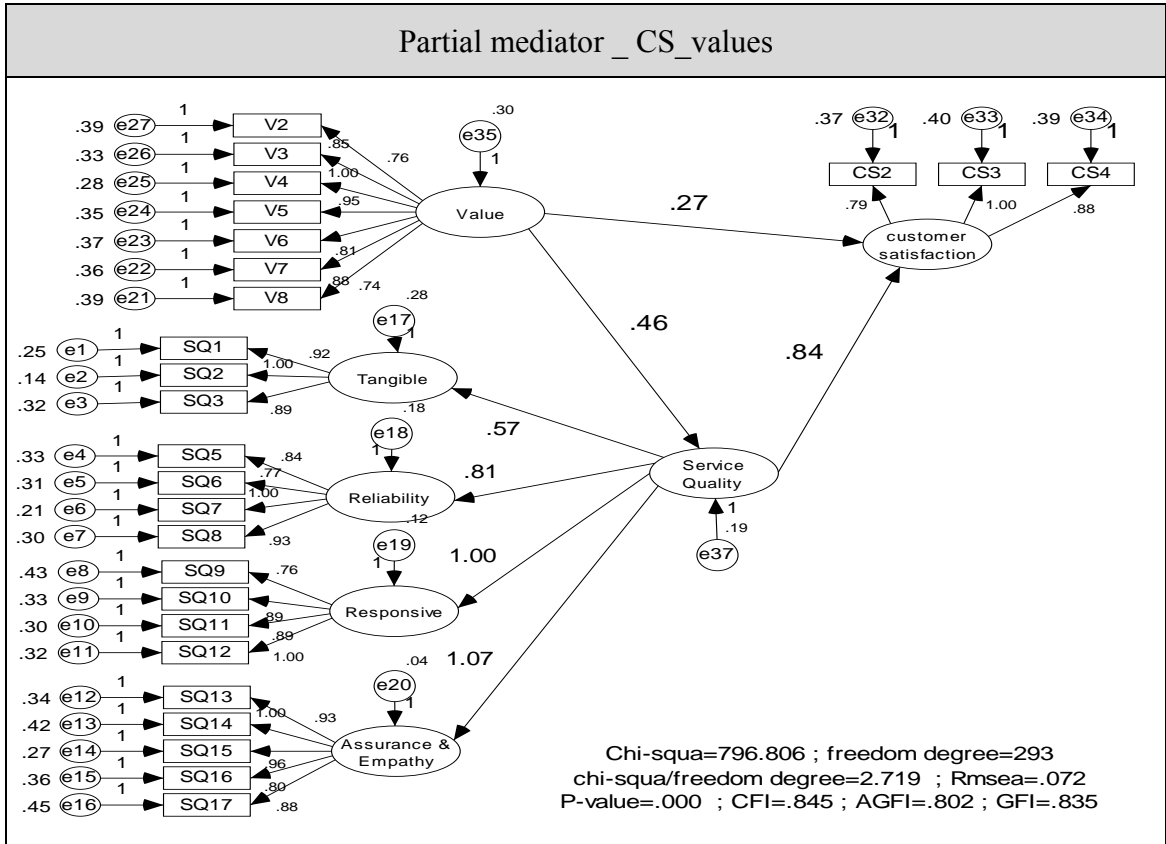


Figure 3-4 Examination of partial Mediator (Customer Values→Service Quality→Customer Satisfaction).

Table 4-1 The summary of this study

	Hypothesis	Results
H1	There will be a positive relationship between consumer values and service quality.	Supported
H2	There will be a positive relationship between customer satisfaction and service quality.	Supported
H3	There will be a positive relationship between customer values and customer satisfaction.	Moderately supported

Although, in person-to-person interactions during a skin-care service, the insentient personality of a service provider may make customers lose patience and interest in revisiting the facility. To proceed further on service quality, it is interesting to note that the most important factors are service responsiveness and service reliability, which were indexed by such customer statements as “the employees show kindness toward me and a willingness to quickly solve my problems,” ”when customers have a problem, this skin-care company show a sincere interest in solving it,” and “its business hours suit its customers’ needs.” This results point out the service quality may directly affect customer satisfaction. This finding suggests that service quality plays a mediator role, between customer values and customer satisfaction, suggesting that a skin-care manager’s shortest route to customer satisfaction is through service quality.

4.1 Limitation and Suggestions

A major limitation of this study was grounded in a causal model; its results cannot be generalized to the entire skin-care industry of Taiwan. In view of this drawback, testing models appropriate for experimental settings are recommended for further studies on this topic. A sample of skin-care customers completed the questionnaire for this study. However, it was extremely difficult to know the exact characteristics of the population who were familiar with products and services of skin-care. For this reason, a decision was made to employ convenience sampling, a non-random method that would make sample representativeness difficult to identify. Furthermore, the sample was somewhat skewed in favor of female and more educated consumers. Therefore, caution is needed when applying the results of the present study beyond these demographics. Including a wider range of population groups is recommended for future research.

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